WHAT IS CLAIMED IS:

1   1. A method of creating a desired target object based on one or more pre-existing

2   parent objects, the method comprising:

3   performing a finding operation to find the target object in terms of each of the

4   parent objects; and

5   performing a building operation to obtain a combined transformation based on the

6   parent objects;

7   wherein the target object is created by the combined transformation of the parent

8   objects.

1   2. The method of creating a desired target object of claim 1, wherein the target

2   object is a point and the one or more pre-existing parent objects comprise a vector and a

3   point.

1   3. The method of creating a desired target object of claim 2, wherein the building

2   operation comprises a summation.

1   4. The method of creating a desired target object of claim 1, wherein the target

2   object is a vector and the one or more pre-existing parent objects comprise plural vectors.

1   5. The method of creating a desired target object of claim 4, wherein the building

2   operation comprises a vector operation..

1   6. The method of creating a desired target object of claim 1, wherein the target

2   object is a vector and the one or more pre-existing parent objects are selected from the

3   group consisting of: a single point and a single vector.

1   7. The method of creating a desired target object of claim 6, wherein the building

2   operation comprises a derivative operation.

1   8. The method of creating a desired target object of claim 1, wherein the target

2   object is a vector and the one or more pre-existing parent objects comprise plural points.

1   9. The method of creating a desired target object of claim 8, wherein the building

2   operation comprises a difference operation.

1   10. The method of creating a desired target object of claim 1, wherein the target

2   object is a set of orthogonal axes and the one or more pre-existing parent objects comprise

3   plural vectors.

1   11. The method of creating a desired target object of claim 10, wherein the

2   building operation comprises an alignment operation.

1   12. The method of creating a desired target object of claim 1, wherein the target

2   object is a coordinate system and the one or more pre-existing parent objects comprise a

3   point and a set of orthogonal axes.

1   13. The method of creating a desired target object of claim 12, wherein the

2   building operation comprises an assembly operation.

1   14. A computer system adapted for creating a desired target object based on one

2   or more pre-existing parent objects, the system comprising:

3   a processor;

4   a memory, addressable by the processor, including software instructions adapted

5   to enable the computer system to perform the steps of:

6   performing a finding operation to find the target object in terms of each of the

7   parent objects; and

8   performing a building operation to obtain a combined transformation based on

9   the parent objects;

10   wherein the target object is created by the combined transformation of the parent

11   objects.

1   15. The computer system of claim 14, wherein the target object is a coordinate

2   system) and the one or more pre-existing parent objects comprise a point and a set of

3   orthogonal axes.

1   16. The computer system of claim 15, wherein the building operation comprises an

2   assembly operation.

1   17. A computer program product for enabling a computer to create a desired

2   target object based on one or more pre-existing parent objects, the computer program

3   product comprising:

4   software instructions for enabling the computer to perform predetermined

5   operations, and

6   a computer readable medium embodying the software instructions;

7   the predetermined operations including the steps of:

8   performing a finding operation to find the target object in terms of each of the

9   parent objects; and

10   performing a building operation to obtain a combined transformation based on

11   the parent objects;

12   wherein the target object is created by the combined transformation of the parent

13   objects.

1   18. The computer program product of claim 17, wherein the target object is a

2   coordinate system and the one or more pre-existing parent objects comprise a point and a

3   set of orthogonal axes.

1   19. The computer program product of claim 18, wherein the building operation

2   comprises an assembly operation.

1   20. A method of creating a desired target object based on a pre-existing parent

2   object and on information explicitly provided by a user, the method comprising:

3   performing a finding operation to find the target object in terms of the parent

4   object, using the information explicitly provided by the user, to obtain a first

5   transformation;

6   performing a finding operation to find the parent object with respect to the target

7   object, to obtain a second transformation; and

8   combining the first and second transformations to create the target object.

1   21. A computer system adapted for creating a desired target object based on a pre-

2   existing parent object and on information explicitly input by a user, the system

3   comprising:

4   a processor;

5   a memory, addressable by the processor, including software instructions adapted

6   to enable the computer system to perform the steps of:

7   performing a finding operation to find the target object in terms of the parent

8   object, using the information explicitly provided by the user, to obtain a

9   first transformation;

10   performing a finding operation to find the parent object with respect to the

11   target object, to obtain a second transformation; and

12   combining the first and second transformations to create the target object.

1   22. A computer program product for enabling a computer to create a desired

2   target object based on a pre-existing parent object and on information explicitly input by a

3   user, the computer program product comprising:

4   software instructions for enabling the computer to perform predetermined

5   operations, and

6   a computer readable medium embodying the software instructions;

7   the predetermined operations including the steps of:

8   performing a finding operation to find the target object in terms of the parent

9   object, using the information explicitly provided by the user, to obtain a

10   first transformation;

11   performing a finding operation to find the parent object with respect to the

12   target object, to obtain a second transformation; and

13   combining the first and second transformations to create the target object.